

METHODS AND APPARATUS FOR IN SITU SUBSTRATE TEMPERATURE MONITORING

ABSTRACT

In a plasma processing system, a method of determining the temperature of a substrate is disclosed. The method includes positioning the substrate on a substrate support structure, wherein the substrate support structure includes a chuck. The method further includes creating a temperature calibration curve for the substrate, the temperature calibration curve being created by measuring at least a first substrate temperature with an electromagnetic measuring device, and measuring a first chuck temperature with a physical measuring device during a first isothermal state. The method also includes employing a measurement from the electromagnetic measurement device and the temperature calibration curve to determine a temperature of the substrate during plasma processing.